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20 December 1968

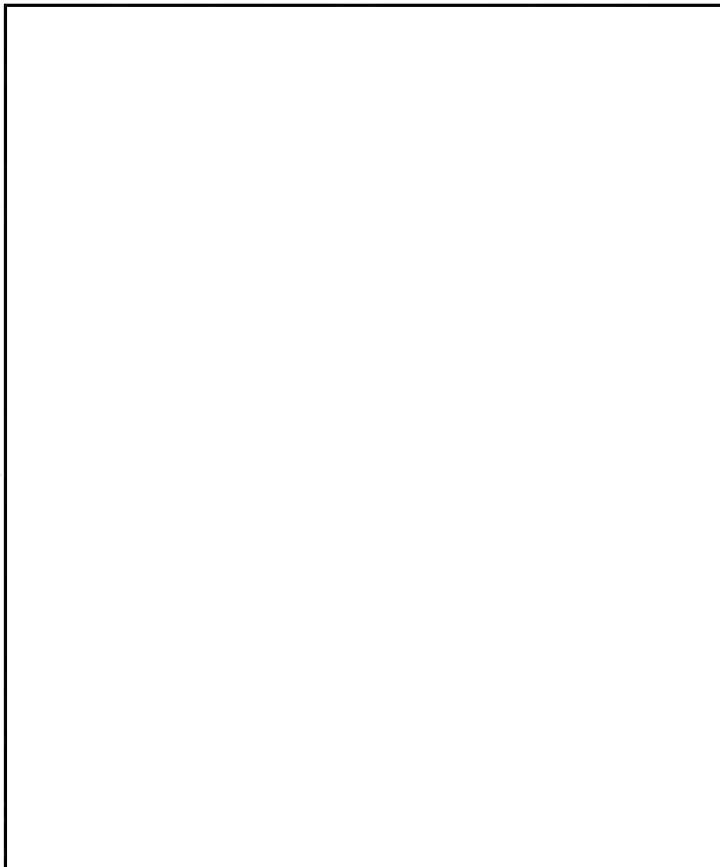
MEMORANDUM FOR: Deputy for Operations, OSA

SUBJECT: Detailed Trip Report, 3 - 10 December 1968  
Project [REDACTED]

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1. Wednesday, 4 December. A formal briefing was presented at Detachment "G" to introduce the [REDACTED] Project and to initiate Detachment involvement in this project. The following IW-3 cleared personnel were in attendance:

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USAF review(s) completed.

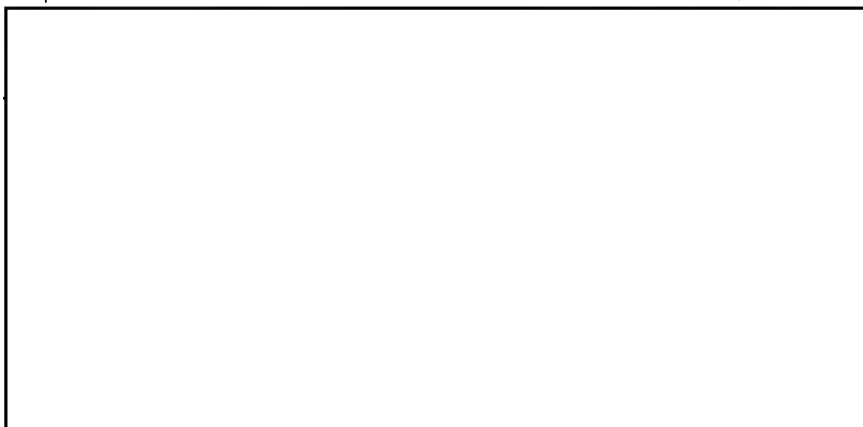
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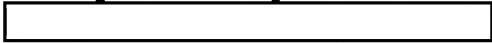
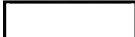
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The following subject areas were briefed:

- a. The NRO requirement.
- b. The concept developed to satisfy that requirement. U-2R, 
- c. The Quick Application/Evaluation Program, Phase I, and the follow on, refined program, Phase II.
- d. History of Program development.
- e.  vehicle characteristics.



- g. Program costs.
- h. Phase I approved schedules and suspense dates based on a 4 November 1968 go ahead date.

The briefing precipitated a lively discussion period thereafter. Discussion chiefly concerned:

- a. Impact of this new program on Detachment "G's" training and flight test requirements and current deadlines.

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b. Detachment flight test [ ] of 25X1A  
[ ] configuration.

c. Impact of additional testing and training on the manpower situation in light of scheduled U-2R deployments.

d. Security implications.

e. Materiel/maintenance aspects.

The principles in attendance were advised to identify possible problem areas arising from the schedule presented; to consider their alternatives; and to submit their recommendations including rationale to Project Headquarters as soon as possible. [ ] Headquarters Deputy for Materiel representative, agreed to take action on several recommendations pertinent to that area of responsibility.

Copies of the briefing slides, approved schedules and available data on the [ ] were prepared and presented to [ ] for their discretionary dissemination.

Detachment Project Officers were identified as follows:

a. Operations - [ ] 25X1A

b. Instructor Pilot - [ ] 25X1A

c. Flight Planner - [ ] 25X1A

2. Thursday, 5 December. Traveled to Pacific Missile Range, Pt. Mugu NAS, California to discuss requirement/procedures for use of the range and its facilities during the flight test and training phases. Other attendees at this conference were:

[ ] PMR Special Projects

[ ] operations

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[redacted] and [redacted] were briefed IW-3 prior to these discussions. [redacted] range director and Captain [redacted] range operations officer, are also briefed IW-3 to insure proper priority given scheduling and use of range facilities.

Principle areas of discussion were:

a. Range Scheduling:

(1) Hours of operation

Monday - 1100L - 1930L

Tuesday, Wednesday, Thursday - 0500L - 1930L

Friday - 0500L - 1500L

(2) Busiest period daily 1000L - 1400L.

(NOTE: PMR had conducted 27,020 operations period February 1967 to date.)

(3) [redacted] schedule should be given PMR on Monday of week preceding the flight. All conflicts are resolved and range schedules firmed up by Thursday.

(4) [redacted] representative insured that this project will be given top scheduling

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priority and only those other projects with the same priority will require consideration in the event of a conflict.

(5) Schedules will be coordinated via telecon directly between Detachment "G" operations and cleared contacts at the PMR. Conflicts to the desired schedules will be handled in the same manner. If conflicting parties remain intransigent, [ ] arbitrates the matter to a decision. No problems are anticipated since Detachment "G" can easily schedule take offs early enough to enter the range before peak load times. Range also will be requested for back up dates in the event unable to complete on primary date. When schedules are firm, Detachment "G" will advise Project Headquarters via priority message.

(6). PMR scheduling officers, through automation, have a data recall capability which is able to display any selected day's schedule. Data displayed includes:

(a) Program identification code number assigned when PMR prepares project operations plan.

(b) Aircraft type - (if classified, not given).

(c) Missile type - (if classified, not given).

(d) Altitudes of operation.

(e) Assigned time block.

(f) Range facilities required for project.

b. Range Facilities:

(1) Tracking and surveillance radars are

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numerous - able to track all vehicles simultaneously - data link to selectable scales/displays for plotting vehicle track and surveillance scope in control center. Willing to operate as many radars as possible to enhance tracking data collection and System 17B signal environment.

(2) Optical tracking - several high altitude tracking stations available with video capability to closed circuit TV monitor system. TV consoles are available in each of the control centers.

(3) After each flight PMR will provide: track and altitude plots from tracking radars; surveillance radar scope photography (16mm); automatic gain control (AGC) records from tracking radars to facilitate vehicle radar cross section analysis; 35 or 70mm camera film from Theodolite and MOTU (Mobile Optical Tracking Unit) facilities.

(4) Air Sea Rescue - on alert during all operations - primarily helicopters stationed at San Nicolas Island and Pt. Mugu NAS. Sea borne traffic would also be diverted if required.

(5) Communications - all HF, VHF and UHF. PMR assigns discrete UHF frequencies for each operation. Will monitor our assigned HF frequencies. Two way communication available in each control center. Range call sign [ ]

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(6) Control Centers - real time mission track and altitude plot to monitor mission progress. Equipment includes surveillance radar console - TV monitor - Air/ground communication. Personnel required in center during mission:

- (a) Range Operations officer (cleared IW-3).
- (b) Two uncleared technicians.
- (c) Detachment "G" operations officer.

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This project will be assigned Alfa or Bravo control center.

c. Range Requirements:

(1) Project Headquarters will detail PMR facilities desired for flights and advise so range operations order can be prepared.

(2) Two way radio communications with launch aircraft to give/receive acknowledgement of Go/No Go/Hold Fire command. Also desire count down to launch to facilitate immediate acquisition [ ]

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(3) Identify safety zone for [ ] flight track which takes into consideration vehicle capabilities/tolerances in range and azimuth. This zone to be swept clean of aircraft and surface vessels prior to launch go ahead.

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d. Clearances:

(1) FAA - File normal flight plan with handoff to PMR prior to entry into range warning areas.

(2) Range - Will clear U-2R onto range upon initial contact and give Go/No Go/Hold Fire command. PMR will coordinate with FAA closure of controlled air way corridors through the range. (One of three must always be available for normal operations. See Attachment 1.) Return U-2R to FAA control upon completion of mission on the range.

e. Security Considerations:

(1) Radar Tracking - technicians will know speed/altitude of all vehicles.

(2) Optical Tracking - operators and all TV monitor stations will observe U-2R configured with [ ] and subsequent launch. Can be curtailed.

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(3) Schedule - names of project officers - hold down on type aircraft/missile - curtailment of optical tracking - all create curiosity for covert type project.

(4) Communications -

[redacted] Necessary communications are few and the operations console appears to be far enough away from the technician's work area as to preclude overhearing voice communications. Use of a discrete UHF frequency should further reduce exposure.

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(5) Russian trawlers which are fully equipped for intelligence collection operate within 500NM of Pt. Mugu approximately one third of the time. At random frequency, they anchor inside San Nicolas Island. PMR publishes a daily advisory concerning the location of these ships whenever they are operating within 500NM of Pt. Mugu.

(6) Both [redacted] are scheduled to be TDY on another operation for two weeks during period 26 January 1969 thru 15 February 1969. Action has been taken to obtain an IW-2 clearance for [redacted] so that he may function as operations officer during their absence.

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(7) The West Coast security representatives were advised to submit their recommendations concerning these and other security aspects to Project Headquarters for consideration in the development of the overall security/cover plan for this project.

3. Recommendations/comments concerning use of PMR are:

a. Develop a range safety zone which uses the smallest number of control areas and lies inside the Pt. Mugu warning area complex to ease scheduling and

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range sterilization problems. Should not plan to use [ ] since it is controlled by the San Diego range. This action has been accomplished (Attachment 2) with the following considerations:

(1) Launch safety zone allows for navigation error up to 5NM each side of planned track as well as along track errors.



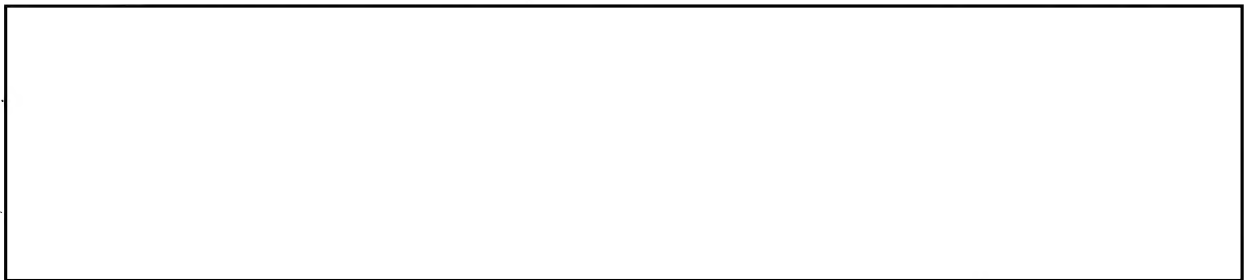
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In the event of a single launch, the second can be simulated, etc.

(3) San Nicolas tacan may be used as navigation cross check to determine launch point. [ ] tacan is available for operational mission. Tacan should be turned off after launch number two before SAM engagement period.

(4) The [ ] is designed to consider vehicle performance tolerances for a double live launch (#1 flies 10 minute profile, #2 flies 8 minute profile) and reasonable wind and navigation errors.

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c. With implementation of this security/cover plan, recommend that PMR be allowed to use maximum facilities

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in support of this project's operations so that we may obtain the maximum benefit from available data collected by these facilities.

d. PMR desires [ ] if possible, since vehicle cross section is small and difficult to track. However, if unit cost prohibitive, recommend no further consideration.

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e. Detachment "H" and LAC recommends U-2R chase be flown for all launch missions. Hand held camera photography would be taken from offset below launch aircraft which, in their opinion, would facilitate evaluation of launch process, malfunction, etc. Do not recommend approval of these additional flights due to flying safety aspect and the amount of higher priority scheduled commitments for time period January - February 1969. Q-bay camera installation plus optical tracking by PMR should satisfy these requirements.

f. Recommend only flights with live vehicle firings be scheduled into PMR. Dummy launches can be accomplished over the Edwards range [ ] or the Tonopah range [ ]

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g. Detachment "G" will be tasked to:

(1) Coordinate Headquarters desires with respect to PMR facilities approved for use.

(2) Arrange details for PMR prepared report which will evaluate and critique each launch mission.

(3) Arrange procedures to pick up PMR take (tracking data, film, etc.) after each flight for movement to Headquarters.

(4) Detail scheduling procedures to include communications plan.

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(5) Obtain coordinates of PMR radar and optical tracking stations for post flight data correlation.

(6) Coordinate with Los Angeles and Oakland ARTC necessary FAA clearance procedures for enter/exit PMR.

(7) Process 16, 35 and 70mm black and white film from PMR prior to shipment to Headquarters.

4. Friday and Saturday, 6 and 7 December. Discussion and work session with Detachment "G" Commander and Project Officers to develop:

- a. [ ] range safety zone. (Attachment 2)
- b. Sample training route to PMR.
- c. Pilot training program.

Discussions included the forthcoming LAC flight test of the configuration and the operational deployment and employment of the system. Received briefings from the flight planning section concerning:

a. Recommended U-2R data additions to Project Headquarters Manual 50-1055-3, Flight Planning Manual.

b. An excellent and detailed study prepared by JACKSON flight planner, [ ] which analyses the accuracy of U-2R performance charts in the Flight Handbook. Recommend formal recognition be prepared and forwarded through appropriate channels, commending [ ] for this outstanding contribution.

5. In developing a recommendation for a pilot training program, certain premises that were established during the formulation of the [ ] concept were discussed with Detachment "G" project officers. These are:

- a. [ ] will be used because targeting may change the primary requirement to an overflight mission.

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b. Training to be accomplished at Edwards because:

(1) Can be accomplished concurrently with systems flight testing.

(2) Range safety during actual practice launches.

(3) Security.

(4) Better facilities available to further evaluate system performance.

(5) Availability of U-2R.

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6. The following training program was developed and is considered ideal in view of the ground rules established above but not possible with the present planned inventory of live/inert  vehicles:

a. Ground Training:

(1)

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(2) Operational mission profile.

(3) Launch/panel procedures.

(4) Special navigation procedures.

(5) U-2R requal briefing.

(6) Training mission planning/briefings.

b. Flying Training:

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(1) T-33\* (one sortie)

- (a) Local area/range familiarization.
- (b) FAA, departure, enroute, arrival procedures.
- (c) Recurrency check.

(2) U-2R\* nonconfigured (two sorties)

- (a) Low altitude - day - check out.
- (b) High altitude - day - nav simulate operational route.

\*Depends on pilot's currency/qualifications. Possibly time will permit equal at Detachment "H" after U-2R deployed.

(3) U-2R configured sorties (three sorties)

- (a) Low - High, local area captive.

1.

[REDACTED]

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2. 20 - 40M check flight characteristics, stalls, turns, etc.

3. 70M check flight characteristics, buffet, etc.

4. Full stop landing with

[REDACTED]

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- (b) Max altitude over land simulated operational mission.

1. Launch

[REDACTED]

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2. Launch point at Edwards or Tonopah range.

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3. Assymetrical flight between launches.

4. Land clean.

(c) Max altitude over water simulated operational mission.

1. Launch [ ]

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2. Launch [ ]

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3. Launch point in PMR.

4. Land clean.

c. Recommendations:

(1) Each [ ] receives all the training outlined above. 25X1A

(2) The IP, [ ] accomplishes only the configured training. 25X1A

(3) Assymetrical configuration for landing only in dire emergency. 25X1A

d. Sorties required: 25X1A

	[ ]		[ ]	Total
T-33*	1	1	0	2
U-2R* (nonconfig)	2	2	0	4
U-2R (config)	<u>3</u>	<u>3</u>	<u>3</u>	<u>9</u>
Total	6	6	3	15

\* Depends on pilots currency/qualifications.

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e.

25X1

f.

7. Since Phase I requires an absolutely austere approach the following is the recommended approach to accomplish pilot training with the available inventory:

a. Ground training T-33 and nonconfigured U-2R  
requalification flights - no change to that outlined  
above

b. Configured Flight #1

(1)

(2) Low - High - Captive

(3) Check flight characteristics.

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(4) Full stop landing with [ ] aboard. 25X1

c. Configured Flight #2 - [ ] (primary pilot) only: 25X1A

(1) Max Altitude - simulated operational mission.

(2) Launch [ ] in Edwards or Tonopah range. 25X1

(3) Navigation and assymetrical flight to PMR.

(4) Launch [ ] in PMR. 25X1

(5) Land clean.

d. Configured Flight #2 - [ ] (back up pilot) only: 25X1A

(1) Max Altitude - simulated operational mission.

(2) Launch [ ] in Edwards or Tonopah range. 25X1

(3) Assymetrical flight between launches.

(4) Land clean.

e. Sorties required:

	[ ]			Total 25X1A
T-33*	1	1	0	2
U-2R* (nonconfig)	2	2	0	4
U-2R (config)	<u>2</u>	<u>2</u>	<u>1</u>	<u>5</u>
Total	5	5	1	11

\* Depends on pilots currency/qualifications.

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f.

g.

8. The undersigned realizes that there are any number of variations possible between what is the considered ideal training program and the recommended austere approach.

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10. Monday, 9 December. Meeting with LAC engineers at the "Skunk Works". In addition to the undersigned, the following personnel were in attendance:

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Subjects discussed were:

a. Details of aircraft modification - the configuration to be mounted at wing station 161.5 (approximately 10 feet outboard of engine air intake).

b. Predicted flight characteristics - LAC feels assymetrically configured flight will be no problem and will require only negligible amounts of trim change due to the low drag profile of [redacted] relatively inboard location of the mounts. No adverse yaw/roll is expected at launch and should be controlled with autopilot. LAC predicts that landings and take-offs [redacted] will be well within the capabilities of the U-2R and should present no unusual problems.

c. Flight test program - LAC anticipates about four flights. [redacted] will detail LAC requirements and forward to Headquarters as soon as possible. However, in the interest of maximum safety precautions recommend a preliminary message to LAC requiring:

(1) No landings with the unsymmetrical configuration.

(2) First inert launch to be accomplished at relatively low altitude (30 - 40M) to ensure proper separation, etc.

(3) Second inert launch at operational altitude.

(4) Live launch from operational altitude.

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d. LAC agreed to develop, at no additional cost, a Flight Handbook supplement concerning the configuration, as well as normal and emergency procedures check lists.

e. LAC agreed to validate performance data degradation estimates during flight test.

11. Monday evening, 9 December. Attended an informal meeting with Beech Aircraft Co. representatives. Attendees in addition to the undersigned were:



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Discussions principally concerned:

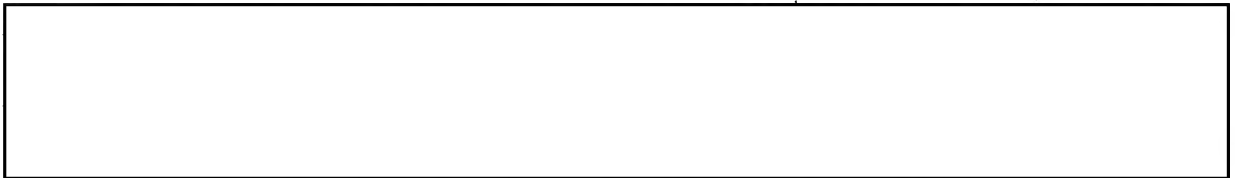
a. [redacted] overall reliability - excellent 95% plus.

b. Autopilot reliability - the modified version has an improved autopilot and should hold heading within  $\pm 5^\circ$  of launch heading.

c. Engine - very few failures have been experienced.

d. Destruct system - totally reliable and safe.

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f. Beech will develop checklists for LAC inclusion in Flight Handbook.

g. Beech agreed to assist in the pilot training program. [redacted] will be the Beech technical representative at Detachment "G" and he will prepare a slide briefing on [redacted] for presentation to all

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interested personnel. In addition, he volunteered to conduct a hangar classroom using the actual equipment as training aids. [ ] will provide reference manuals and other materials for study purposes.

12. Tuesday, 10 December. Attended D/M/OSA sponsored interface meeting at LAC, Burbank. Details of the meeting should be presented in other trip reports. Items of interest to D/O/OSA that developed at this meeting were:

a. The [ ] modification although fabricated as a kit installation must still remain fixed to Article 054 due to the necessity of having all systems flight tested and validated as a mated unit. If this is the case, 054 will deploy. The biggest advantage of the kit form mod is the capability to remove it from 054 when it is no longer required.

b. All participants examined the launch panel designed by [ ] and were convinced that it would take deliberate action by the pilot [ ]. [ ] It was recommended that the panel be taken to Detachment "G" and its installation in the cockpit determined using a pilot with in inflated pressure suit.

c. The proposal requiring the launch and jettison circuits to be interlocked with a landing gear up switch was disapproved. This circuitry feature would not have allowed launch/jettison with the landing gear in the down position which is normally the case from high in the descent profile. Any malfunction occurring after the gear is extended would preclude jettison unless the pilot is able to get the gear back up and locked.

IDEALIST Division, OSA

Attachments - 2

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IDEA/OSA/[ ] (20 Dec 68)

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